

Draft Rule Amendment

10 CSR 20-7.015 Effluent Regulations
&
10 CSR 20-7.031 Water Quality Standards

March 2, 2005

Missouri Department of Natural Resources
Water Protection Program

Wetlands

- (1)(C)12-15 Page 5
 - Beneficial uses currently are listed in WQS.
- (1)(F)7. Page 5
 - Class W definition.
 - U.S. Army Corps of Engineers Wetlands Delineation Manual (January 1987).
- (1)[(X)](Z) Page 6-7
 - Wetlands definition
- (4)(A)[6.]5. Page 8-9
 - Revisions reflects a more detailed method for how wetlands could be assigned specific criteria.

Site-Specific Criteria for Dissolved Oxygen

- (4)(A)[3.] Page 8
 - Deleted paragraph 3.
- (4)(R) Page 12-13
 - Site-specific criteria development for the Protection of Aquatic Life.
 - Combination of U.S. EPA, Kansas, Iowa, and Nebraska methods.
 - Three appropriate conditions:
 - Natural adaptive processes.
 - Composition of aquatic life different.
 - Physical &/or chemical characteristics of water body.

Analytical Method for Drinking Water Supply Metals

■ (4)(B)2.B. Page 9

- All metals criteria for the protection of Drinking Water Supply shall be analyzed by the total recoverable method.

Criteria for the Protection of Aquatic Life

- (4)(B)6. Page 9
 - Added sentence that aquatic life metals criteria can be found in equation format in Table A.
- Table A Page 16-18
 - Cadmium, Chromium III, Chromium VI, Copper, Lead, Nickel, Silver, Zinc are recalculated.
 - Equation-based criteria.
 - Table based on lowest hardness value in given range.

Criteria for Human Health-Fish Consumption

■ Table A Page 19

- DDT and metabolites, bis(chloromethyl)ether, pentachlorobenzene
- Trihalomethanes
 - Bromoform, chlorodibromomethane, and dichlorobromomethane existed in current WQS.
 - Chloroform added in draft.
- Based on EPA's 1999 Nationally Recommended Criteria for organism only with a 10^{-6} risk factor.

Criteria for Drinking Water Supplies

■ Table A. Page 19

- 2,3,7,8-TCDD dioxin; 1,2-dichloropropane; DDT and metabolites; bis(chloromethyl)ether; pentachlorobenzene; and tetrachlorobenzene.
- Based on EPA's 1999 Nationally Recommended Criteria for organism plus water with a 10^{-6} risk factor.

Designated Waters for Cold Water Fisheries

■ Table C. Page 25

- Added:
 - Bulls Shoals Lake (Ozark County)
 - Indian Creek (Franklin & Washington Counties)
- Returned original mileage:
 - North Fork White River (Ozark County)
 - South Indian Creek (Newton & McDonald Counties)
 - Spring Creek (Douglas & Ozark Counties)
- Turnback Creek: Name was corrected in previous revision to Turkey Creek. No change needed.

Designated Beneficial Uses

■ Table G - Lakes.

- Beneficial uses re-added.
 - No documentation found to validate previous removals.
- Turner Lake = Shawnee Lake
- Ziske Lake = Mac Lake
- Pomona Lake never existed (built on a losing stream).

■ Table H - Streams.

- Big Buffalo Creek = segment split differently
- Brush Creek = segment split differently
- Brushy Fork = Brushy Creek
- Calico Creek = segment split differently
- Flat Creek = segment split differently

Small Variances in Water Quality Criteria

■ Table A Page 19

- Human Health-Fish Consumption Criteria.
 - Chlorodibromomethane; bromoform; 2,4,6-trichlorophenol; tetrachloroethylene; n-nitrosophyrrolidine
 - Based on EPA's 1999 Nationally Recommended Criteria for organism only with a 10^{-6} risk factor.
- Drinking Water Supply Criteria.
 - Methylene chloride & tetrachloroethylene.
 - Based on EPA's 1999 Nationally Recommended Criteria for organism plus water with a 10^{-6} risk factor.

Revisions to Table G-Lakes & Table H-Streams

■ Table G

- Ben Branch Lake = 1 acre restored.
- Higginsville South Lake = Previous listing restored.
- Malta Bend Community Lake = Previous listing restored.
- Roby Lake = Previous listing restored.

■ Table H

- Brush Creek = Previous listing restored.
- Brushy Creek = Previous listing restored.
- Long Branch = Divided into 2 segments.
- Mill Creek = No change can be found.

Site-specific Criteria

- (4)(A)[3.] Page 8
 - Dissolved oxygen site-specific language deleted.
- (4)(B)1. Page 9
 - Tables A & B site-specific language deleted.
- (4)(B)5. Page 9
 - Human health-fish consumption language kept.
- (4)(L)[3.] Page 11
 - Sulfate and chloride site-specific language deleted.
- (4)(R) Page 12-13
 - Language added for site-specific criteria development for the protection of aquatic life.

Antidegradation

- (2)(A)-(C) Page 7
 - Added “Tier One,” “Tier Two,” and “Tier Three.”
- (2)(D) Page 7
 - Language added stating that implementation procedures will be developed through stakeholder involvement and referenced by this rule.
 - Settlement agreement:
 - “...on or before April 30, 2007, EPA agrees to determine...whether new or revised water quality standards are necessary to meet the requirements of the CWA.

Mixing Zone in Low Flow Streams

- (4)(A) [5.] 4.B.(I)(a) Page 7
 - “Class C streams and streams with seven (7)-day Q10 low flows of 0.1 cfs or less.”
 - Deleted “Class C streams.”
 - Based on flow--not classification of stream.
 - Mixing zone allowance removed.

Definitions

- (1)(C)9. Secondary Contact Recreation Page 5
- (1)(G) Early life stages Page 5
- (1)[(M)](N)1.-4. Low-flow conditions Page 6
- (1)(S) Reference lakes or reservoirs Page 6
- (1)(V) Water effect ratio Page 6
- (1)[(T)](W) Water hardness Page 6
- (1)(Y) Waters of the State Page 6

Name Change

- Division of Geology and Land Survey (DGLS) became the Geological Survey and Resource Assessment Division (GSRAD).
- WQS
 - (1)/(L)/(M) Page 6
 - Losing stream definition.
- ER
 - (1)(A)3. Page 3
 - List of losing streams in Table J.
 - (7)(C) Page 6
 - Effluent limitations for subsurface waters.

Total Ammonia Nitrogen

- (4)(B)7. Page 9-10
 - Language added to aid in implementation.
 - Combination of U.S. EPA and several other states' methods.
- Table B Page 20-24
 - Based on EPA's 1999 WQ criteria.

Standard pH Units

- (4)(E) Page 11
 - Added language stating that pH is measured in “standard pH units.”

Sulfate + Chloride

7Q10 Repeated

- (4)(L)1. Page 11
 - Deleted “at the seven (7)-day Q10 low flow” since 7Q10 appears at the beginning of the paragraph.

Groundwater Designated Use Clarification

- (5)(A)-(D) Page 12
 - Replace “Column I,” “Column II,” and “Column VII” with the actual name of the column.
 - Column I = protection of aquatic life
 - Column II = protection of human health-fish consumption
 - Column VII = groundwater

Section Title

- (10) Page 13
 - Added section title for easier reference.

Column Clarification

■ Table A Page 15-19

- Clarify column headings with actual acronym instead of Roman numeral.
 - AQL = Protection of Aquatic Life.
 - HHF = Human Health Protection-Fish Consumption.
 - DWS = Drinking Water Supply.
 - IRR = Irrigation.
 - LWW = Livestock, Wildlife Watering.
 - GRW = Groundwater.

Tables D & E

Outstanding Resource Waters

- Table D - National Page 25
 - Upstream and downstream legal descriptions added.
 - Jacks Fork upstream location = R07W (not R05W).
- Table E - State Page 25
 - Blue Springs Creek
 - Delete phrase “1.5 miles adjacent to owned lands.”
 - Bull Creek
 - Added designation.
 - Plan to add upstream and downstream legal descriptions soon for all waters listed.

Biocriteria Reference Locations

■ Table I Page 26-27

- Changes due to water withdrawal for irrigation, accessibility limitations, and refinement of selection processes.

Phosphorus Rule Date Clarification

- 10 CSR 20-7.015 Effluent Regulations
 - Lake Taneycomo rule was adopted May 9, 1994.
 - (3)(F)1. Page 3
 - Table Rock Lake rule was adopted November 30, 1999.
 - (3)(G)2. Page 4
 - (3)(G)3. Page 4
 - (3)(G)4. Page 4

Losing Stream Dechlorination

■ (4)(B)5.

Page 4

- Clarified dechlorination paragraph for losing streams.
- Current exception requires discharge location to be more than one mile from classified stream and into a flowing stream with a 7Q10 equal to or greater than 50 times the effluent flow.
 - The above exemption is not known to occur in a losing stream.
- “All chlorinated effluent discharges to losing streams or within two (2) stream miles flow distance upstream of losing stream shall also be dechlorinated prior to discharge.”
- (1)(A)3.
 - “Only discharges...which occur within two (2) miles upstream of the losing section of the stream shall be considered releases to a losing stream.”

Outstanding Resource Waters

- EPA found existing provisions inconsistent.
- Staff considered and acknowledged:
 - No lowering of water quality.
 - EPA guidance documents.
 - Stakeholder comments.
 - Discharges to ORW exist.
 - Karst area.

Outstanding Resource Waters

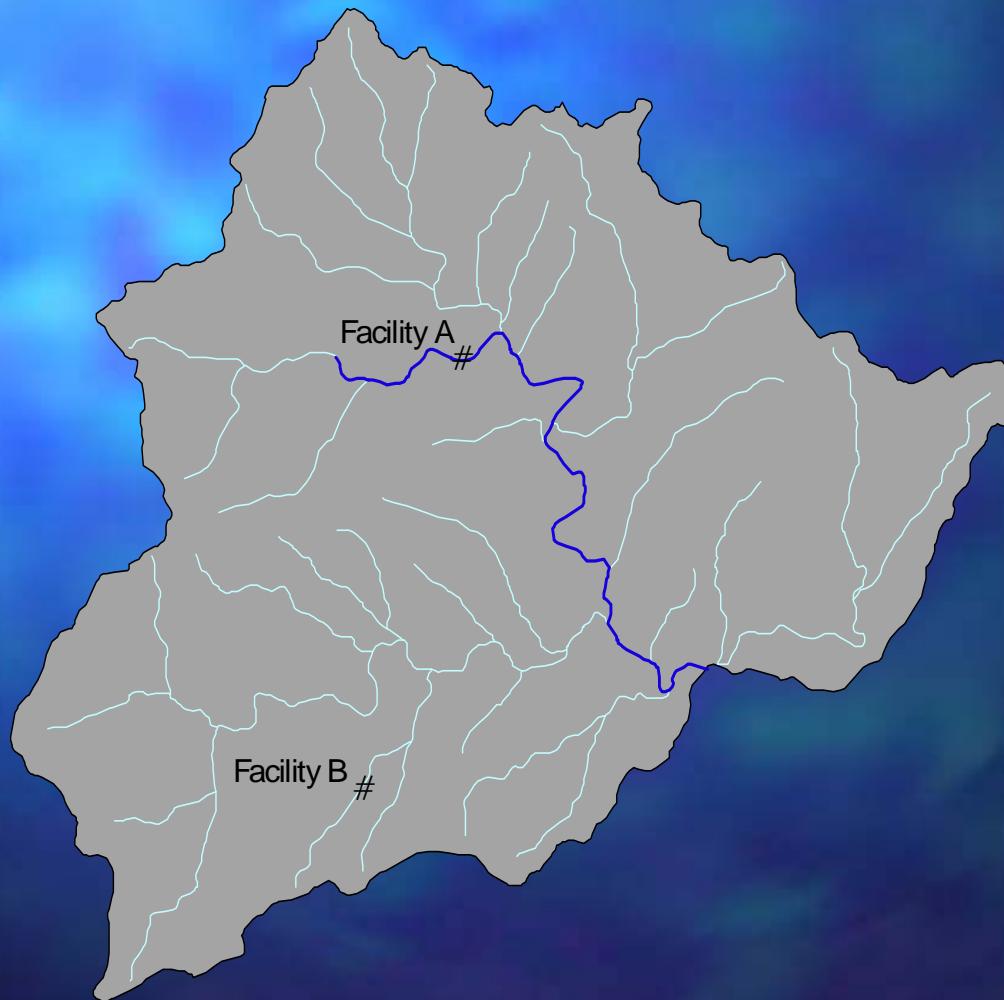
- Water Quality Standards

- (7) Page 13
 - Exceptions for Public Owned Treatment Works (POTWs) and mine dewatering deleted.
- (8) Page 13
 - Similar language as section (7).

Outstanding Resource Waters

- 10 CSR 20-7.015(6) Discharge Restrictions for Outstanding National or State Resource Waters and Drainages Thereto.
 - ORW
 - No new or expanded discharges directly into ORW.
 - Discharges before June 29, 1974 or time of designation allowed.
 - Temporary lowering of water quality, but not below water quality standards.
 - Watershed
 - No lowering of water quality in ORW.
 - Hydrologic connections.
 - Watershed defined.

Outstanding Resource Waters



High Flow Exemption

- Existing recreational use assessment.
- Assess conditions at the facility (or discharge site).
- Moved from Water Quality Standards to Effluent Regulations.
 - Since draft is based on effluent control.

High Flow Exemption

- Granted when bacterial contributions to the water reduced to the maximum extent practicable (MEP).
 - In compliance with approved plan.
 - Long-term Control Plan for CSOs.
 - Management Plan.
 - May apply to either point or nonpoint source(s).
 - BMPs and technology-based treatment requirements met.

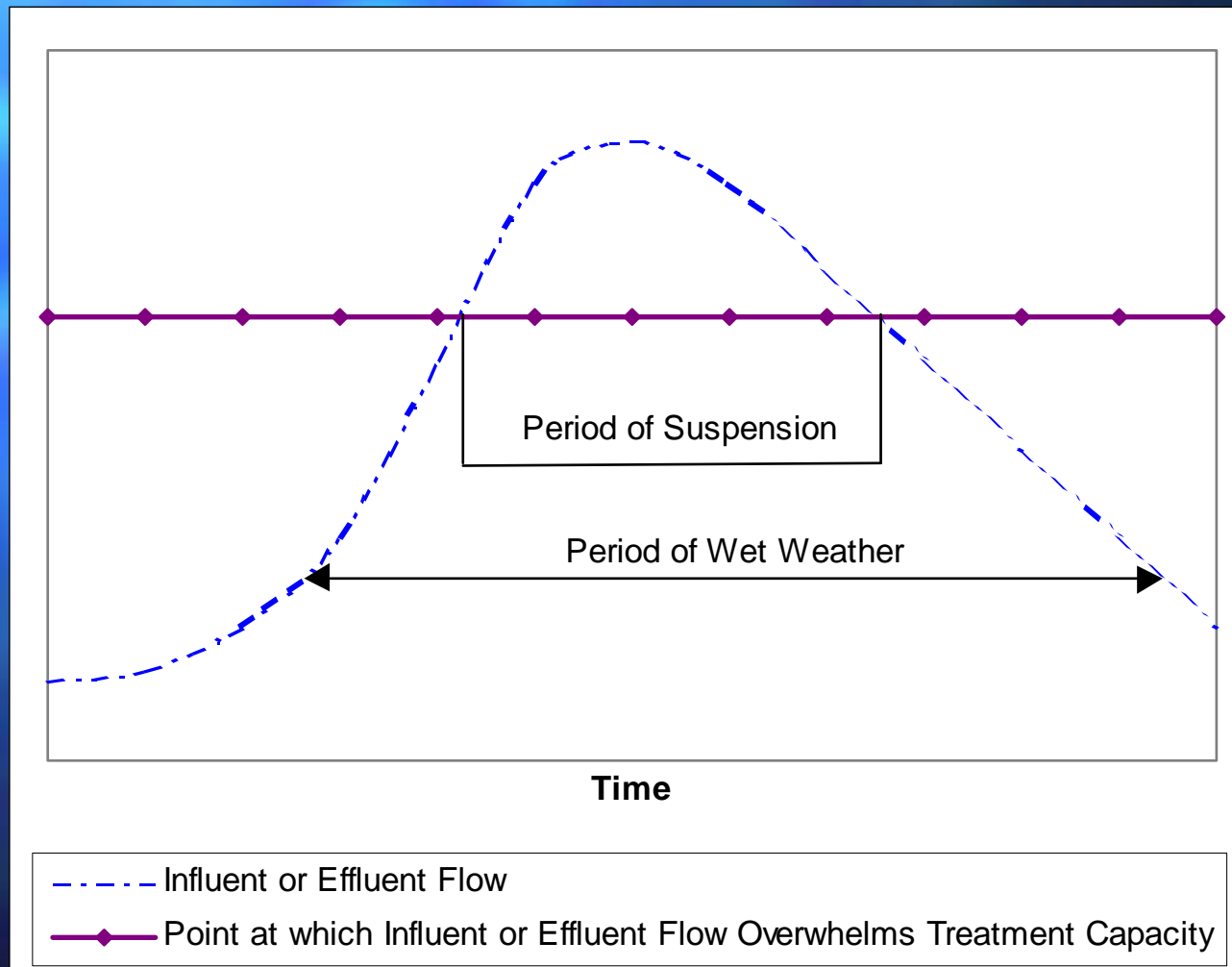
High Flow Exemption

- Additional treatment causes widespread social and economic hardship.
- Clearly describe period of relief during a defined wet weather event.

High Flow Exemption

- 10 CSR 20-7.015(9)(I) Temporary Suspension of Accountability for Bacteria Standards during Wet Weather.
 - Specific to each discharge.
 - Defined wet weather event.
 - No recreational use exists.
 - Substantial and widespread economic and social impact.
 - Approved by the Clean Water Commission.
- Reference.
 - (2)(B)4. Page 3
 - (3)(B)3. Page 3
 - (8)(B)4.A. Page 6

High Flow Exemption



Tiered Recreational Uses

- EPA guidance allows.
 - *Implementation Guidance for Ambient Water Quality Criteria for Bacteria*, May 2002 draft, EPA 823-B-02-003.
 - Whole Body Contact (WBC) recreation = not greater than 14 illnesses/1000 swimmers.
 - Must have Use Attainability Analysis (UAA) to remove WBC.
- WBC & Secondary Contact Recreation (SCR) separate recreational uses.

Tiered Recreational Uses

■ Whole Body Contact Recreation

Page 4

– (1)(C)8.A. Category A

- Existing use by general public for WBC.
- Assumed to be already designated for WBC.
- UAA needed to remove use or place in WBC-B.

– (1)(C)8.B. Category B

- All other waters.
- Assumed to have no existing use.
- If WBC is existing, will be added to WBC-A.

■ Secondary Contact Recreation

Page 5

■ Tables G & H

Bacterial Indicators

■ (4)(C) Page 10

- *E. coli* criteria added.
 - EPA's 1986 criteria.
 - No *E. coli* criteria for Effluent Regulations yet.
- Criteria added for secondary contact recreational use.
- Three year transition period between Fecal Coliform and *E. coli*.

■ Table A Page 15

Category		<i>E. coli</i> Criterion	Illness Rate
WCR	A	126	8/1000
	B	548	14/1000
SCR		1134	9 times WBC-A

Implementation of WBC designation

- Effluent Regulations

- Implementation schedule

- (2)(B)4. Page 3
 - (3)(B)3. Page 3
 - (8)(B)4.A. Page 6
 - (9)(H) Page 6